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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/814,009	03/31/2004	Alan F. Washburn	31936-CNT1	5559
23589	7590	06/21/2005	EXAMINER	
HOVEY WILLIAMS LLP 2405 GRAND BLVD., SUITE 400 KANSAS CITY, MO 64108			TORRES, ALICIA M	
			ART UNIT	PAPER NUMBER
			3671	
DATE MAILED: 06/21/2005				

Please find below and/or attached an Office communication concerning this application or proceeding.

EA

Office Action Summary	Application No.	Applicant(s)	
	10/814,009	WASHBURN, ALAN F.	
	Examiner	Art Unit	
	Alicia M. Torres	3671	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.
- 2a) ☒ This action is FINAL. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 and 24-41 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-11, 14-16, 24-29, 34, 35 and 38-41 is/are rejected.
- 7) ☒ Claim(s) 12, 13, 30-33, 36 and 37 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____. |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____. | 6) <input type="checkbox"/> Other: _____. |

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DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 38 and 40 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. As seen in page 3, lines 15, 16 and 23-26, the specification fails to set forth power transfer through variable angles of intersections and requires only that the deck be pivotable through two axes.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

4. Claims 1, 34 and 39 are rejected under 35 U.S.C. 102(b) as being anticipated by Smith et al., hereafter Smith.

Smith discloses a pull-behind mower for cutting ground vegetation, said mower comprising:

Art Unit: 3671

a frame (14) adapted to be coupled to a vehicle (12) and rollingly supported on the ground;

a motor (not shown) rigidly coupled to the frame (14);

a mowing deck (70) coupled to the frame (14) for pivotal movement relative to the frame (14) on first (through vertical drive shaft 46, see Figures 5 and 7) and second (through horizontal drive shaft 40, see Figures 6 and 7) intersecting pivot axes; and

a drive train (comprised of parts 38, 40, 42, 44, 46) for drivingly coupling the motor to the deck (70) so that the motor powers the deck (70),

said drive train including a first rotatable drive shaft (46), a second rotatable drive shaft (40), and

a U-joint (32, comprised of parts 24, 26, 28, 30, 50), also known as a Hooke's joint, as per claim 39, coupled between the first (46) and second (40) drive shafts for rotation therewith, said U-joint (32) being centered proximate the intersection of the first and second pivot axes, as per claim 1; and

said motor being a gas-powered motor (an engine, see column 2, lines 17, 18), as per claim 34.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 2-10 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Smith in view of Allen et al., hereafter Allen.

The device is disclosed as applied to claim 1 above. Smith further discloses said deck (70) being pivotable relative to the frame (14) on the first pivot axis between a retracted position (5) and an extended position (1),

said first and second pivot axes being at least substantially perpendicular to one another, as per claim 2; and

said deck (70) pivoting through a first pivot angle of more than about 20° when pivoted between the extended and retracted positions (see Figures 1 and 5),

said deck (70) pivoting through a second pivot angle of more than about 30° (through shaft 40, see figures 1 and 6), as per claim 3; and

said first pivot axis (through vertical drive shaft 46) being generally upright, as per claim 4; and

said first drive shaft (46) being configured for rotation on the first pivot axis, as per claim 5; and

a mechanism (angle iron 34) operable to inhibit pivoting of the deck (70) on the second pivot axis (through shaft 40), as per claim 35.

However, Smith fails to disclose wherein said deck is pivotable relative to the frame on the second pivot axis between an engaged position and a disengaged position, as per claim 2; and

a support arm comprising a frame-side section coupled to the frame and a deck-side section coupled to the deck,

said support arm including a hinge joint for permitting pivoting of the deck-side section relative to the frame-side section, as per claim 6; and

said hinge joint permitting pivoting of the deck relative to the frame on the second pivot axis, as per claim 7; and

said frame-side section being rotatably coupled to the frame, said frame-side section being rotatable relative to the frame on the first pivot axes, as per claim 8; and

said first and second pivot axes being substantially perpendicular to one another, as per claim 9; and

said first pivot axis being generally upright, as per claim 10.

Allen discloses a similar device wherein said deck (66) is pivotable relative to the frame (16) on the second pivot axis (through pins 40) between an engaged position (see Figure 2) and a disengaged position (see column 2, lines 54-61), as per claim 2; and

a support arm (38) comprising a frame-side section coupled to the frame (16) and a deck-side section coupled to the deck (66),

said support arm (38) including a hinge joint (40) for permitting pivoting of the deck-side section relative to the frame-side section, as per claim 6; and

said hinge joint (40) permitting pivoting of the deck (66) relative to the frame (16) on the second pivot axis (through pins 40), as per claim 7; and

said frame-side section being rotatably coupled to the frame (16), said frame-side section being rotatable relative to the frame (16) on the first pivot axes (through vertical drive shaft 34), as per claim 8; and

Art Unit: 3671

said first (through vertical drive shaft 34) and second (through pins 40) pivot axes being substantially perpendicular to one another (see figure 7), as per claim 9; and

said first pivot axis (through vertical drive shaft 34) being generally upright, as per claim 10.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the raising and lowering and pivoting means of Allen on the mower of Smith in order to determine the height at which grass will be cut and so the mower will ride along terrain and obstacles.

7. Claims 11, 14-16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Dewitt et al., hereafter Dewitt, in view of Scarborough

Dewitt discloses a pull-behind mower for cutting ground vegetation, said mower configured to be pulled behind a vehicle and powered independently of the vehicle, said mower comprising:

a frame (12) presenting a fore end and an aft end;

a hitch (unnumbered) coupled to the fore end and configured to releasably couple the frame (12) to the vehicle in a manner that permits pivoting of the frame (12) relative to the vehicle;

a pair of laterally spaced wheels (unnumbered, located on axle 17) coupled to the aft end and adapted to rollingly support the frame (12) on the ground;

a mowing deck (11) operable to cut vegetation when positioned proximate the ground;

Art Unit: 3671

a support arm comprising a frame-side section (43, 46, 49) rotatably coupled to the frame (12) and a deck-side section (64) rigidly coupled to the deck (11), said frame-side (43, 46, 49) and deck-side (64) sections being hingedly intercoupled (at pin 50, see Figure 6), as per claim 1; and

the frame-side section (43, 46, 49) being rotatable relative to the frame (12) on a first pivot axis (around post 38), the frame-side (43, 46, 49) and deck-side (64) sections being hingedly intercoupled on a second pivot axes (through pin 50), the first (around 38) and second (through pin 50) pivot axes being substantially perpendicular to one another, as per claim 14; and

the first (around post 38) and second (through pin 50) pivot axes intersecting one another, as per claim 15; and

the first pivot axis (around post 38) being generally upright, as per claim 16.

However, Dewitt fails to disclose a motor rigidly coupled to the frame and drivingly connected to the deck, so as to power the deck independently of the vehicle, as per claim 1.

Scarborough discloses a similar mower attachment where the motor (100) is rigidly coupled to the frame (12) and drivingly connected to the deck (26), so as to power the deck (26) independently of the vehicle, as per claim 1.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the frame mounted motor of Scarborough on the device of Dewitt in order to isolate the auxiliary motor.

8. Claims 24-29 and 41, are rejected under 35 U.S.C. 103(a) as being unpatentable over Dewitt et al., hereafter Dewitt, in view of Smith et al., hereafter Smith.

Art Unit: 3671

Dewitt discloses a pull-behind mower for cutting ground vegetation, said mower configured to be pulled behind a vehicle, said mower comprising:

- a frame (12) presenting a fore end and an aft end;

- a hitch (unnumbered) coupled to the fore end and configured to releasably couple the frame (12) to the vehicle in a manner that permits pivoting of the frame (12) relative to the vehicle;

- a pair of laterally spaced wheels (unnumbered, located on axle 17) coupled to the aft end and adapted to rollingly support the frame (12) on the ground;

- a mowing deck (11) operable to cut vegetation when positioned proximate the ground;

- a support arm comprising a frame-side section (43, 46, 49) rotatably coupled to the frame (12) and a deck-side section (64) rigidly coupled to the deck (11), said frame-side (43, 46, 49) and deck-side (64) sections being hingedly intercoupled, as per claim 24; and

- the frame-side section (43, 46, 49) being rotatable relative to the frame (12) on a first pivot axis (around post 38), the frame-side (43, 46, 49) and deck side (64) sections being hingedly intercoupled on a second pivot axes (through pin 50), the first (around post 38) and second (through pin 50) pivot axes being substantially perpendicular to one another, as per claim 26; and

- wherein the first (around post 38) and second (through pin 50) pivot axes intersect one another, as per claim 27; and

- the first pivot axis (around post 38) being generally upright, as per claim 28; and

- a mechanism (top surface of boom 46) operable to inhibit pivoting of the deck on the second pivot axis (through pin 50), as per claim 29.

Art Unit: 3671

However, Dewitt fails to disclose a motor for powering the deck; and
a drive train for transferring power from the motor to the deck, said drive train including a first rotatable drive shaft, a second rotatable drive shaft, and a U- joint, also known as a Hooke's joint, as per claim 41, coupled between the first and second drive shafts, as per claim 24; and

the support arm permitting pivoting of the deck relative to the frame on first and second distinct and intersecting pivot axes,

the U-joint being centered proximate the intersection of the first and second pivot axes, as per claim 25.

Smith discloses a similar device including a motor (on the tractor) for powering the deck (70); and

a drive train for transferring power from the motor to the deck (70), said drive train including a first rotatable drive shaft (40), a second rotatable drive shaft (46), and a U- joint (32, comprised of parts 24, 26, 28, 30, 50) coupled between the first (40) and second (46) drive shafts, as per claim 24; and

the support arm (52) permitting pivoting of the deck (70) relative to the frame (14) on first and second distinct and intersecting pivot axes,

the U-joint (32, comprised of parts 24, 26, 28, 30, 50) being centered proximate the intersection of the first and second pivot axes, as per claim 25.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to include the drive train of Smith on the device of Dewitt in order to avoid obstructions.

Response to Arguments

9. Regarding the applicant's arguments to the rejection of claim 1, Merriam-Webster's definition of a universal joint is "a shaft coupling capable of transmitting rotation from one shaft to another not collinear with it." Furthermore, in the specification, the applicant requires only that the deck be movable through two pivot axes (see page 3, lines 15, 16 and 23-26).

Dependent claim 38 further limits independent claim 1 by defining how the u-joint in claim 1 should operate. The claim from which claim 38 depends is thus broader. If the u-joint of claim 1 operated in the fashion in which the applicant is arguing, that the joint permit variation in the angle of intersection between the axes of rotation of the shafts, there would be no need for defining claim 38. The presence of claim 38 simply reinforces that the u-joint of claim 1 need not provide motion through varying angles of intersection.

Regarding the applicant's arguments for claims 11 and 14-16, the applicant's arguments that placing a motor on the frame of DeWitt would increase the complexity of the power transfer system could be applied to the instant invention. The idea taught by Scarborough is that it is desirable to isolate the motor from obstruction.

Regarding the applicant's arguments for claims 24-29, Smith teaches that it is old and well-known in the art to take advantage of the power available from a towing vehicle for powering the towed implement. Smith also teaches it is desirable to allow a towed implement pivoting movement through two axes to allow for movement through obstruction and to help the implement better follow terrain.

Allowable Subject Matter

10. Claims 12, 13, 30, 31-33, 36, 37 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

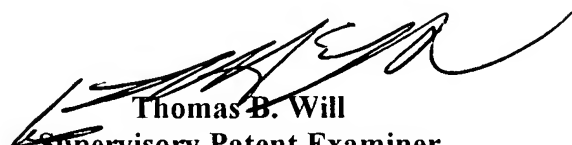
A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alicia M. Torres whose telephone number is 571-272-6997. The examiner can normally be reached Monday through Thursday from 7:00 a.m. – 4:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas B. Will, can be reached at 571-272-6998.

Art Unit: 3671

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is 703-305-1113. The fax number for this Group is 703-872-9306.



Thomas B. Will
Supervisory Patent Examiner
Group Art Unit 3671

AMT
June 13, 2005